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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WOO, RICHARD SUKYOON

ART UNIT PAPER NUMBER

3629

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/726,725

Applicant(s)

ZUMEL ET AL. 

Examiner

Richard Woo

Art Unit

3629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-78 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

- 1) The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 112***

- 2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 3) Claims 1-78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, line 9; Claim 22, line 14; Claim 40, line 10; and Claim 61, line 15, respectively, the recitation of "how to" renders the claim indefinite because the applicants clearly fail to particularly point out and distinctly claim what kind of process constitutes "how to" so as to determine to price the unit.

### ***Claim Rejections - 35 USC § 101***

- 4) 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 3629

5) Claims 1-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful,

Art Unit: 3629

concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court

Art Unit: 3629

found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, there is no significant recitation of any technological device (e.g., data processing system, database, or processor) in the claim body for performing data processing operations, in which there is a significant change in the

Art Unit: 3629

data, or for performing calculation operations although the preamble of the claim merely recites the computer-implemented step.

***Claim Rejections - 35 USC § 102***

6) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7) Claims 1, 16, 20, 22, 35, 39-40, 55, 59, 61, 74, and 78, as far as they are definite, are rejected under 35 U.S.C. 102(a) as being anticipated by “Product Line Selection and Pricing Under the Multinomial Logit Choice Model” (available at <http://gilbreth.ecn.purdue.edu/~jkryan/prodline.pdf>) (hereinafter “Pricing”).

As for Claim 1, Pricing discloses a method comprising the steps of:

during a particular time interval, concurrently offering the pricing unit at a plurality of price candidates (see generally pages 2-5, 6-24);

making one or more L2B measurements for each of the plurality of price candidates for the interval (see *Id.*);

performing a comparison between the L2B measurements for the candidates;

and

price the unit based on the comparison.

Art Unit: 3629

As for Claim 16, Pricing further discloses the method including the steps of:

monitoring a current price of the pricing unit during a monitor operation to determine whether a most-recent demand measurement that is measured during the monitor operation corresponding to the current price is within a predetermined demand interval (see Pages 3-5, 7-16); and

if the most-recent demand measurement is not within the predetermined demand interval, then adjusting the current price to form a new current price so that a new most-recent demand measurement corresponding to the new current price is within the interval (see Id.).

As for Claim 20, Pricing further discloses the method, wherein the predetermined demand interval surrounds a mean demand value corresponding to the current price (see Supra Pages).

As for Claim 22, Pricing discloses a method comprising the steps of:

during a particular time interval, alternating between offering the price unit at a plurality of price candidates (see generally pages 2-5, 6-24);

making one or more L2B measurements for each of the plurality of price candidates for the interval (see Id.);

performing a comparison between the L2B measurements for the candidates;

and

price the unit based on the comparison.



Art Unit: 3629

As for Claim 35, Pricing further discloses the method including the steps of:

monitoring a current price of the pricing unit during a monitor operation to determine whether a most-recent demand measurement that is measured during the monitor operation corresponding to the current price is within a predetermined demand interval (see Pages 3-5, 7-16); and

if the most-recent demand measurement is not within the predetermined demand interval, then adjusting the current price to form a new current price so that a new most-recent demand measurement corresponding to the new current price is within the interval (see Id.).

As for Claim 39, Pricing further discloses the method, wherein the predetermined demand interval surrounds a mean demand value corresponding to the current price (see Supra Pages).

As for Claim 40, Pricing discloses a computer-readable medium having instructions to perform the steps of:

during a particular time interval, concurrently offering the pricing unit at a plurality of price candidates (see generally pages 2-5, 6-24);

making one or more L2B measurements for each of the plurality of price candidates for the interval (see Id.);

performing a comparison between the L2B measurements for the candidates; and

price the unit based on the comparison.

Art Unit: 3629

As for Claim 55, Pricing further discloses the medium including the steps of:

monitoring a current price of the pricing unit during a monitor operation to determine whether a most-recent demand measurement that is measured during the monitor operation corresponding to the current price is within a predetermined demand interval (see Pages 3-5, 7-16); and

if the most-recent demand measurement is not within the predetermined demand interval, then adjusting the current price to form a new current price so that a new most-recent demand measurement corresponding to the new current price is within the interval (see Id.).

As for Claim 59, Pricing further discloses the medium, wherein the predetermined demand interval surrounds a mean demand value corresponding to the current price (see Supra Pages).

As for Claim 61, Pricing discloses a computer-readable medium having instructions to perform the steps of:

during a particular time interval, alternating between offering the price unit at a plurality of price candidates (see generally pages 2-5, 6-24);

making one or more L2B measurements for each of the plurality of price candidates for the interval (see Id.);

performing a comparison between the L2B measurements for the candidates;  
and

price the unit based on the comparison.

Art Unit: 3629

As for Claim 74, Pricing further discloses the medium including the steps of:

monitoring a current price of the pricing unit during a monitor operation to determine whether a most-recent demand measurement that is measured during the monitor operation corresponding to the current price is within a predetermined demand interval (see Pages 3-5, 7-16); and

if the most-recent demand measurement is not within the predetermined demand interval, then adjusting the current price to form a new current price so that a new most-recent demand measurement corresponding to the new current price is within the interval (see *Id.*).

As for Claim 78, Pricing further discloses the medium, wherein the predetermined demand interval surrounds a mean demand value corresponding to the current price (see *Supra* Pages).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

"Selecting Algorithms in the Presence of Uncertainty" is cited to show a method for selecting algorithms for execution in database management systems for the evaluation of user generated queries.

Art Unit: 3629

US 6,526,392 is cited to show a method and system for yield managed service contract pricing, using detailed analysis of the demand over short time intervals to capture the variability.

EP 323,383 is cited to show an automated inventory management system providing that it is easy to user and user friendly to evaluate the impact of customer demand changes on inventory.

US 6,536,935 is cited to show an apparatus for determining assignments to attributes of components within a system. The invention uses a distributed market-based constraint optimization technique to set prices on alternative assignments to the various attributes of a design.

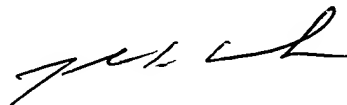
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Woo whose telephone number is 703-308-7830. The examiner can normally be reached on Monday-Friday from 8:30 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on 703-308-2702. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.



Richard Woo  
Patent Examiner  
GAU 3629  
September 27, 2004



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